

**What is claimed is:**

1           1.    A flash ROM management apparatus, comprising:  
2           a storage device capable of storing a plurality of  
3           address records, each address record comprising  
4           an identity and an address range associated  
5           with a flash ROM;  
6           a strapping component, configured to output a signal  
7           to determine flash ROM type; and  
8           a process unit, coupled to the storage device and  
9           the strapping component, receiving a memory  
10          access request with an access range from the  
11          CPU and the signal, determining the flash ROM  
12          type according to the signal, querying the  
13          identity by matching the access range and the  
14          address range, and executing an LPC 1.1 memory  
15          access instruction with the identity and the  
16          access range corresponding to the memory cycle.

1           2.    The apparatus as claimed in claim 1 wherein the  
2           identity is an "IDSEL" number associated with a firmware  
3           hub flash ROM.

1           3.    The apparatus as claimed in claim 1 wherein the  
2           address range is a pair comprising a base address and an  
3           end address.

1           4.    The apparatus as claimed in claim 1 wherein the  
2           address range is a pair comprising a base address and  
3           memory size.

1           5.    The apparatus as claimed in claim 1 wherein the  
2   flash ROM type is an LPC flash ROM or a firmware hub  
3   flash ROM.

1           6.    The apparatus as claimed in claim 1 wherein the  
2   memory access request is a memory read request or a  
3   memory write request.

1           7.    The apparatus as claimed in claim 1 wherein, in  
2   the process unit, the LPC 1.1 memory access instruction  
3   is an LPC memory read instruction or an LPC memory write  
4   instruction, and the LPC memory read instruction or the  
5   LPC memory write instruction corresponds to the LPC  
6   memory cycle.

1           8.    The apparatus as claimed in claim 1 wherein, in  
2   the process unit, the LPC 1.1 memory access instruction  
3   is a firmware hub memory read instruction or a firmware  
4   hub memory write instruction, and the firmware hub memory  
5   read instruction or the firmware hub memory write  
6   instruction corresponds to the firmware hub memory cycle.

1           9.    The apparatus as claimed in claim 1 wherein a  
2   basic input/output system (BIOS) flag within the address  
3   record indicates whether the system BIOS is stored in  
4   flash ROM.

1           10.   The apparatus as claimed in claim 9 further  
2   comprising a configuration unit detecting an error  
3   message indicating system BIOS failure, and resetting the  
4   BIOS flag for further reboot.

1           11. A method of flash ROM management, comprising  
2           using a computer to perform the steps of:  
3           receiving a memory access request with an access  
4           range from a CPU;  
5           receiving a signal output from a strapping component  
6           to determine flash ROM type;  
7           inputting a plurality of address records associated  
8           with a flash ROM, wherein the address record  
9           comprises an identity and an address range;  
10          querying the identity by matching the access range  
11          and the address range; and  
12          executing an LPC 1.1 memory access instruction with  
13          the access range and identity corresponding to  
14          the memory cycle.

1           12. The method as claimed in claim 11, wherein the  
2           memory access request is a memory read request or a  
3           memory write request.

1           13. The method as claimed in claim 11, wherein the  
2           signal determines whether an LPC flash ROM or a firmware  
3           hub flash ROM is present.

1           14. The method as claimed in claim 11, wherein the  
2           identity is an "IDSEL" number associated with a firmware  
3           hub flash ROM.

1           15. The method as claimed in claim 11, wherein the  
2           address range is a pair comprising a base address and end  
3           address.

1           16. The method as claimed in claim 11, wherein the  
2 address range is a pair comprising a base address and  
3 memory size.

1           17. The method as claimed in claim 11, wherein, in  
2 the step of executing an LPC 1.1 memory access  
3 instruction with the access range and the identity  
4 corresponding to memory cycle, the LPC 1.1 memory access  
5 instruction is an LPC memory read instruction or an LPC  
6 memory write instruction corresponding to LPC memory  
7 cycle.

1           18. The method as claimed in claim 11, wherein, in  
2 the step of executing an LPC 1.1 memory access  
3 instruction with the access range and the identity  
4 corresponding to memory cycle, the LPC 1.1 memory access  
5 instruction is a firmware hub memory read instruction or  
6 a firmware hub memory write instruction corresponding to  
7 the firmware hub memory cycle.